

Surface Mount Transient Voltage Suppressor Rectifiers

Reverse Voltage 5.0 V ~ 350 V

600 Watt Peak Pulse Power

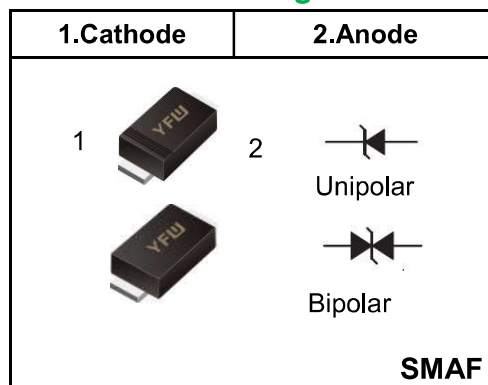
FEATURES

- ◆Glass passivated chip
- ◆600 W peak pulse power capability with a 10/1000
- ◆us waveform, repetitive rate (duty cycle):0.01 %
- ◆Excellent clamping capability
- ◆Low reverse leakage
- ◆Very fast response time
- ◆Lead and body according with RoHS standard

MECHANICAL DATA

- ◆Case:SMAF Molded plastic
- ◆Lead: Solderable per MIL-STD-750, method 2026
- ◆Epoxy: UL 94V-0 rate flame retardant
- ◆Polarity: Color band denotes cathode end except Bipolar
- ◆Mounting position: Any

Pinning



Maximum Ratings & Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P_{PP}	600	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only ⁽²⁾	I_{FSM}	60	A
Maximum instantaneous forward voltage at 25 A for unidirectional only ⁽³⁾	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Note:

1)Non-repetitive current pulse per Fig.5 and derated above $T_A = 25^\circ\text{C}$ per Fig.1;

2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum;

3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 6.5\text{V}$ for devices of $V_{BR} > 201\text{V}$.

SMAF6J5.0A(CA) THRU SMAF6J350A SMAF

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max.Clamping Voltage @ I_{PP}	Max.Peak Pulse Current	Max.Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C\ MAX.}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMAF6J5.0A	SMAF6J5.0CA	6AE	6WE	5	6.4	7	10	9.2	65.3	800
SMAF6J6.0A	SMAF6J6.0CA	6AG	6WG	6	6.67	7.37	10	10.3	58.3	800
SMAF6J6.5A	SMAF6J6.5CA	6AK	6WK	6.5	7.22	7.98	10	11.2	53.6	500
SMAF6J7.0A	SMAF6J7.0CA	6AM	6WM	7	7.78	8.6	10	12	50	200
SMAF6J7.5A	SMAF6J7.5CA	6AP	6WP	7.5	8.33	9.21	1	12.9	46.6	100
SMAF6J8.0A	SMAF6J8.0CA	6AR	6WR	8	8.89	9.83	1	13.6	44.2	50
SMAF6J8.5A	SMAF6J8.5CA	6AT	6WT	8.5	9.44	10.4	1	14.4	41.7	20
SMAF6J9.0A	SMAF6J9.0CA	6AV	6WV	9	10	11.1	1	15.4	39	10
SMAF6J10A	SMAF6J10CA	6AX	6WX	10	11.1	12.3	1	17	35.3	5
SMAF6J11A	SMAF6J11CA	6AZ	6WZ	11	12.2	13.5	1	18.2	33	1
SMAF6J12A	SMAF6J12CA	6BE	6XE	12	13.3	14.7	1	19.9	30.2	1
SMAF6J13A	SMAF6J13CA	6BG	6XG	13	14.4	15.9	1	21.5	28	1
SMAF6J14A	SMAF6J14CA	6BK	6XK	14	15.6	17.2	1	23.2	25.9	1
SMAF6J15A	SMAF6J15CA	6BM	6XM	15	16.7	18.5	1	24.4	24.6	1
SMAF6J16A	SMAF6J16CA	6BP	6XP	16	17.8	19.7	1	26	23.1	1
SMAF6J17A	SMAF6J17CA	6BR	6XR	17	18.9	20.9	1	27.6	21.8	1
SMAF6J18A	SMAF6J18CA	6BT	6XT	18	20	22.1	1	29.2	20.6	1
SMAF6J20A	SMAF6J20CA	6BV	6XV	20	22.2	24.5	1	32.4	18.6	1
SMAF6J22A	SMAF6J22CA	6BX	6XX	22	24.4	26.9	1	35.5	16.9	1
SMAF6J24A	SMAF6J24CA	6BZ	6XZ	24	26.7	29.5	1	38.9	15.5	1
SMAF6J26A	SMAF6J26CA	6CE	6YE	26	28.9	31.9	1	42.1	14.3	1
SMAF6J28A	SMAF6J28CA	6CG	6YG	28	31.1	34.4	1	45.4	13.3	1
SMAF6J30A	SMAF6J30CA	6CK	6YK	30	33.5	36.8	1	48.4	12.4	1
SMAF6J33A	SMAF6J33CA	6CM	6YM	33	36.7	40.6	1	53.3	11.3	1
SMAF6J36A	SMAF6J36CA	6CP	6YP	36	40	44.2	1	58.1	10.4	1
SMAF6J40A	SMAF6J40CA	6CR	6YR	40	44.4	49.1	1	64.5	9.3	1
SMAF6J43A	SMAF6J43CA	6CT	6YT	43	47.8	52.8	1	69.4	8.7	1
SMAF6J45A	SMAF6J45CA	6CV	6YV	45	50	55.3	1	72.7	8.3	1
SMAF6J48A	SMAF6J48CA	6CX	6YX	48	53.3	58.9	1	77.4	7.8	1
SMAF6J51A	SMAF6J51CA	6CZ	6YZ	51	56.7	62.7	1	82.4	7.3	1
SMAF6J54A	SMAF6J54CA	6RE	6ZE	54	60	66.3	1	87.1	6.9	1
SMAF6J58A	SMAF6J58CA	6RG	6ZG	58	64.4	71.2	1	93.6	6.5	1
SMAF6J60A	SMAF6J60CA	6RK	6ZK	60	66.7	73.7	1	96.8	6.2	1
SMAF6J64A	SMAF6J64CA	6RM	6ZM	64	71.1	78.6	1	103	5.9	1
SMAF6J70A	SMAF6J70CA	6RP	6ZP	70	77.8	86	1	113	5.3	1
SMAF6J75A	SMAF6J75CA	6RR	6ZR	75	83.3	92.1	1	121	5	1
SMAF6J78A	SMAF6J78CA	6RT	6ZT	78	86.7	95.8	1	126	4.8	1
SMAF6J85A	SMAF6J85CA	6RV	6ZV	85	94.4	104	1	137	4.4	1

SMAF6J5.0A(CA) THRU SMAF6J350A SMAF

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max.Clamping Voltage @ I_{PP}	Max.Peak Pulse Current	Max.Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_C MAX.(V)$	$I_{PP}(A)$	$I_R(uA)$
SMAF6J90A	SMAF6J90CA	6RX	6ZX	90	100	111	1	146	4.1	1
SMAF6J100A	SMAF6J100CA	6RZ	6ZZ	100	111	123	1	162	3.7	1
SMAF6J110A	SMAF6J110CA	6SE	6VE	110	122	135	1	177	3.4	1
SMAF6J120A	SMAF6J120CA	6SG	6VG	120	133	147	1	193	3.1	1
SMAF6J130A	SMAF6J130CA	6SK	6VK	130	144	159	1	209	2.9	1
SMAF6J150A	SMAF6J150CA	6SM	6VM	150	167	185	1	243	2.5	1
SMAF6J160A	SMAF6J160CA	6SP	6VP	160	178	197	1	259	2.3	1
SMAF6J170A	SMAF6J170CA	6SR	6VR	170	189	209	1	275	2.2	1
SMAF6J180A	SMAF6J180CA	6ST	6VT	180	201	222	1	292	2.1	1
SMAF6J190A	SMAF6J190CA	6SV	6VV	190	209	243	1	308	2	1
SMAF6J200A	SMAF6J200CA	6SX	6VX	200	224	247	1	324	1.9	1
SMAF6J210A		6PB		210	231	268	1	340	1.8	1
SMAF6J220A		6PX		220	246	272	1	356	1.7	1
SMAF6J250A		6PZ		250	279	309	1	405	1.5	1
SMAF6J300A		6QE		300	335	371	1	486	1.3	1
SMAF6J350A		6QG		350	391	432	1	567	1.1	1

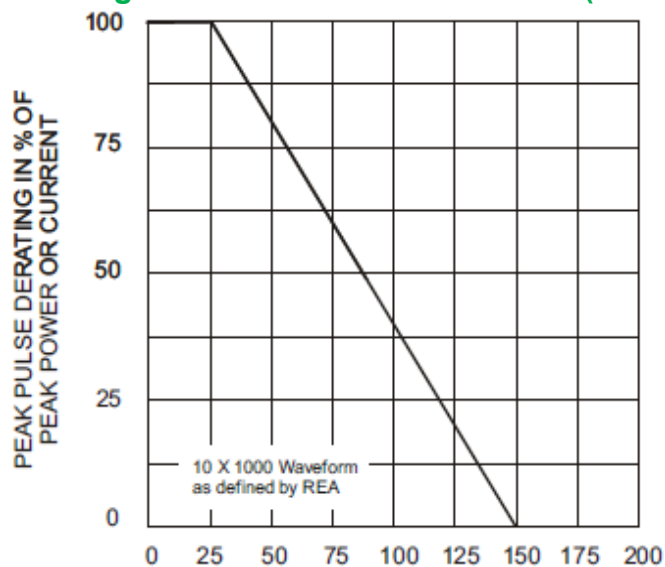


Fig. 1 - Pulse Derating Curve

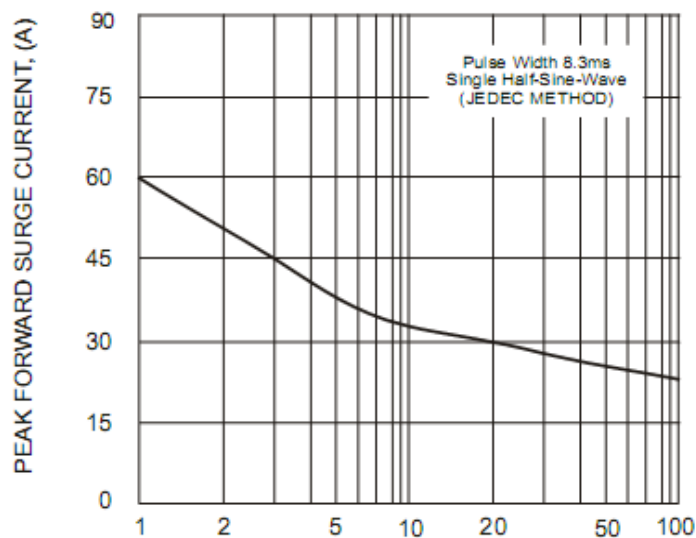


Fig. 2 - Maximum Non-Repetitive Surge Current

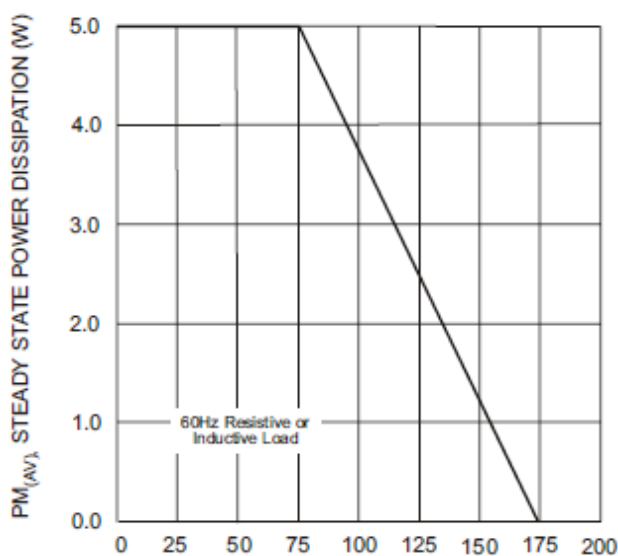


Fig. 3 - Steady State Power Derating Curve

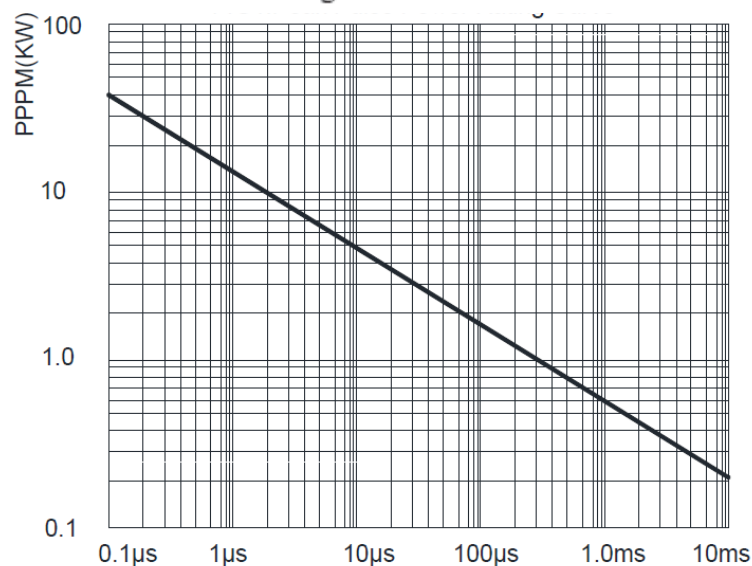


Fig. 4 - Peak Pulse Power Rating Curve

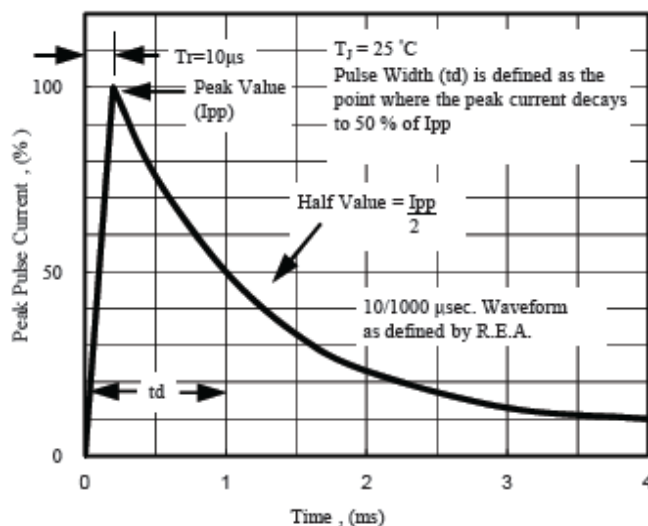


Fig. 5 - Pulse Waveform

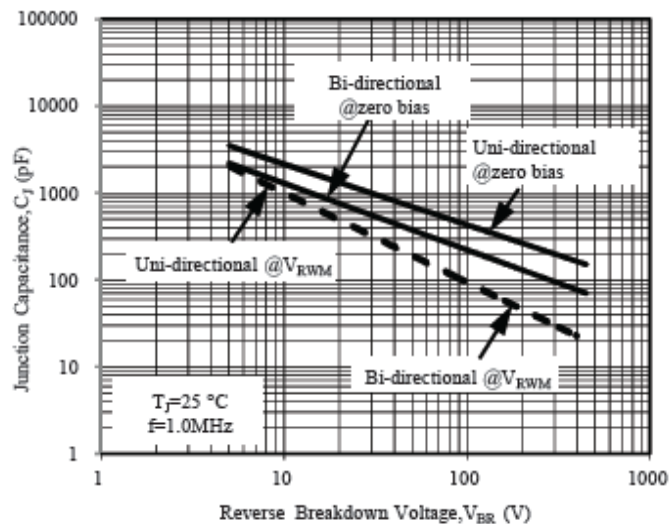


Fig. 6 - Typical Junction Capacitance

Marking Diagram



Ordering information

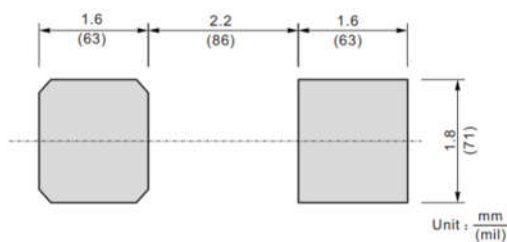
Package	Packing Description	Packing Quantity
SMAF	Tape/Reel, 7" reel	3000PCS/Reel 90000PCS/Carton

Package Dimensions

SMAF

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.1	35	43
C	0.12	0.20	4.7	7.9
D	3.3	3.7	130	146
E	2.4	2.7	94	106
e	1.3	1.6	51	63
g	0.8	1.2	31	47
HE	4.4	4.9	173	193
∠	7°			

The recommended mounting pad size



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